Name: Date: Period:

**Environmental Issues**

Environmental science – study of natural \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the environment

and how \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ affect them

People & Events within Environmental Science:

* John Muir – nature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that led to the establishment of

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ National Park

* Theodore (Teddy) Roosevelt – established 1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for protection of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Gifford Pinchot – 1st director of U.S. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Manage forests \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to meet current and future

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ needs

* Aldo Leopold – wrote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

which is a book that links wildlife \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Rachel Carson – wrote \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which is a book

that describes the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ effects of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the

environment

3 General Categories of Environmental Issues:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = depletion of \_\_\_\_\_\_\_\_ materials
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ growth
   1. Overpopulation = organism \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exceed carrying

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = introduction of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and/or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Types of Resources:

* Renewable resources – resource \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by natural \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a

short period of \_\_\_\_\_\_\_\_\_\_\_\_\_

* + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Nonrenewable resources -- resource that cannot be\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_ or

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on a scale comparative to its \_\_\_\_\_\_\_\_\_\_

* + \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Trash Facts:

* 5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tons per year; 4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ per day
* Solid waste – anything humans \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Agricultural -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ leftovers
  + Mining – rock, \_\_\_\_\_\_\_\_\_\_\_\_, sand
  + Industrial – scrap \_\_\_\_\_\_\_\_\_\_\_\_\_\_, plastic, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, sewage, ash
  + Municipal – homes, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, hospitals, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Hazardous – flammable, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, unstable, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Where does it go?
  + Landfills -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in ground lined with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or

plastic then filled with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + Burn it – with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - Problems – air \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ash
  + Recycle
    - Advantages – saves \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, decreases amount in

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, decreases \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, protects

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - Disadvantages – not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, poor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ products, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, still

causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Overpopulation Causes:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ warming – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in Earth’s surface air

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Greenhouse effect – \_\_\_\_\_\_\_\_\_\_\_\_\_ in atmosphere trap \_\_\_\_\_\_\_\_\_\_\_ from

the \_\_\_\_\_\_\_\_\_\_\_\_

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ destruction; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Introduction of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ species

Negative Effects of Pollution:

1. Disturbs \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Global \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rain, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ land,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ layer depletion, erosion

1. Destroys \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ systems

Overuse, population growth, and pollution ALL cause loss of **BIODIVERSITY**

* Biodiversity -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_ on Earth
  + When lost, species can become \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* + 1. Threatened species – in danger of becoming \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. Endangered species – in danger of becoming \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    3. Extinct species – species are \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Exploitation (poaching) – benefiting from the use of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Values of Biodiversity:

1. ecosystem \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -- keeps \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in nature
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -- anti-venom and vaccines
3. agricultural -- \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_
4. aesthetic -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_ at
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -- manufactured \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What can we do?

* Conservation -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of resources
* Preservation -- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from danger

Human footprint – ecological \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ life on Earth

Name: Date: Period:

**Environmental Issues KEY**

Environmental science – study of natural processes in the environment and how humans affect them

People & Events within Environmental Science:

* John Muir – nature writer that led to the establishment of Yosemite National Park
* Theodore (Teddy) Roosevelt – established 1st National Wildlife Refuge for protection of the brown pelican
* Gifford Pinchot – 1st director of U.S. Forest Service
  + Manage forests sustainably to meet current and future lumber needs
* Aldo Leopold – wrote A Sand County Almanac which is a book that links wildlife management to ecology
* Rachel Carson – wrote Silent Spring which is a book that describes the harmful effects of pesticides on the environment

3 General Categories of Environmental Issues:

1. overuse of resources = depletion of raw materials
2. population growth
   1. Overpopulation = organism numbers exceed carrying capacity
3. pollution = introduction of contaminants into the environment
   1. air, water, soil, radioactive, heat, light, and/or noise

Types of Resources

* Renewable resources – resource replaced by natural processes in a short period of time
  + Solar, wind, hydro, and/or geothermal
* Nonrenewable resources -- resource that cannot be re-grown, remade or regenerated on a scale comparative to its use(consumption)
  + Coal, oil, natural gas

Trash Facts:

* 5 billion tons per year; 4 pounds per day
* solid waste – anything humans throw away
  + Agricultural -- manure and crop leftovers
  + Mining – rock, dirt, sand
  + Industrial – scrap metals, plastic, paper, sewage, ash
  + Municipal – homes, schools, hospitals, businesses
  + Hazardous – flammable, corrosive, unstable, radioactive
* Where does it go?
  + Landfills -- holes in ground lined with clay or plastic then filled with trash
  + Burn it – with incinerators
    - Problems – air pollution; toxic ash
  + Recycle
    - Advantages – saves energy, decreases amount in landfills, decreases pollution, protects environment
    - Disadvantages – not widespread, poor quality products, expensive, still causes pollution

Overpopulation Causes:

1. Global warming – increase in Earth’s surface air temperature
   1. Greenhouse effect – gases in atmosphere trap energy from the sun
2. Habitat destruction; forestry and agricultural (farming)
3. Introduction of non-native (exotic) species

Negative Effects of Pollution:

1. Disturbs ecosystems and its balance
2. Global warming, acid rain, infertile land, ozone layer depletion, erosion
3. Destroys cardiovascular, neurologic, and respiratory systems

Overuse, population growth, and pollution ALL cause loss of **BIODIVERSITY**

* Biodiversity -- variety of life on Earth
  + When lost, species can become threatened, endangered, or extinct.
    1. Threatened species – in danger of becoming endangered
    2. Endangered species – in danger of becoming threatened
    3. Extinct species – species are gone forever
  + Exploitation (poaching) – benefiting from the use of resources

Values of Biodiversity:

1. ecosystem stability -- keeps balance in nature
2. medicines -- anti-venom and vaccines
3. agricultural – food, soil
4. aesthetic -- pleasing to look at
5. industrial -- manufactured products

What can we do?

* Conservation – management of resources
* Preservation -- protection from danger

Human footprint – ecological impact of humans’ life on Earth